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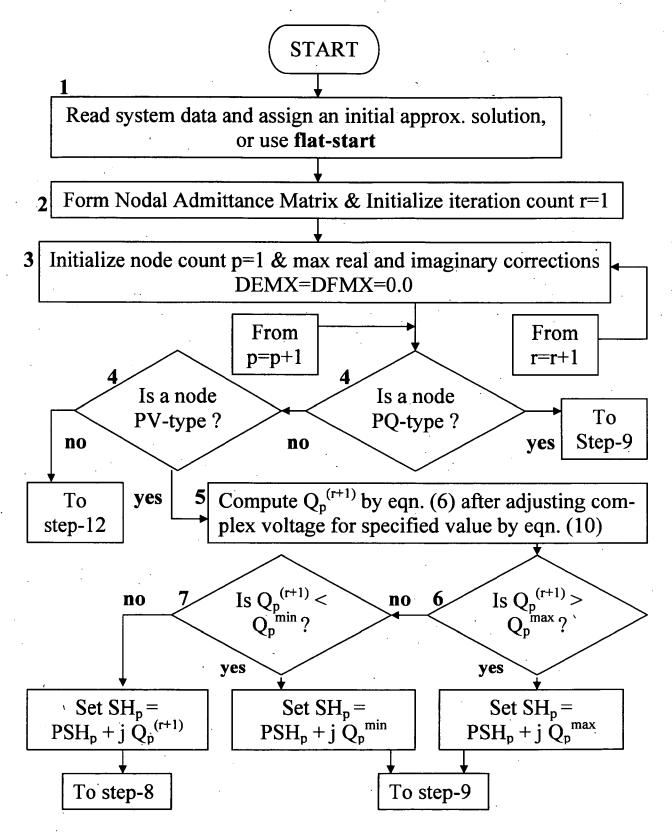


Fig.1a: Prior Art: Flow-chart of Gauss-Seidel Loadflow (GSL) Method

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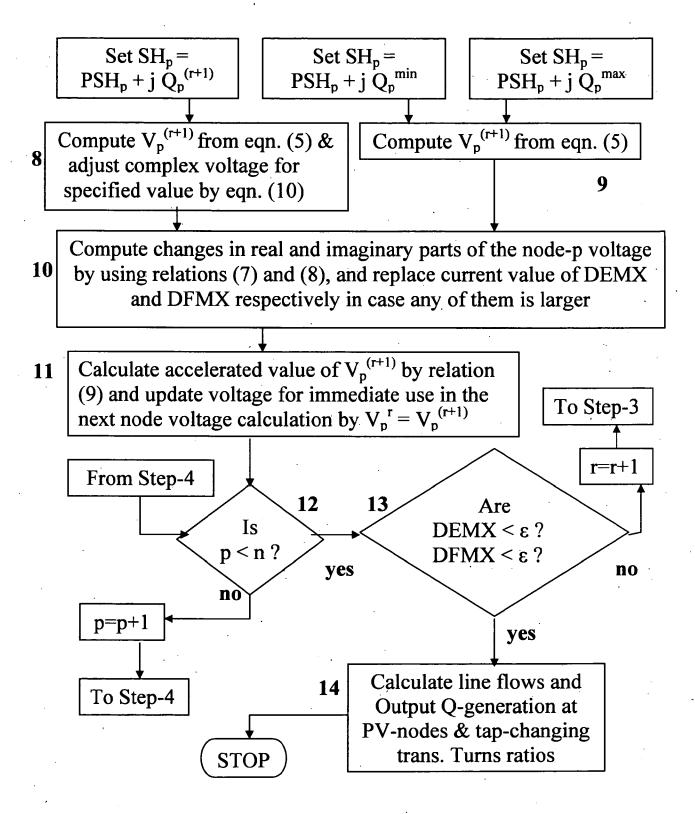


Fig.1a: Prior Art: Flow-chart of Gauss-Seidel Loadflow (GSL) Method

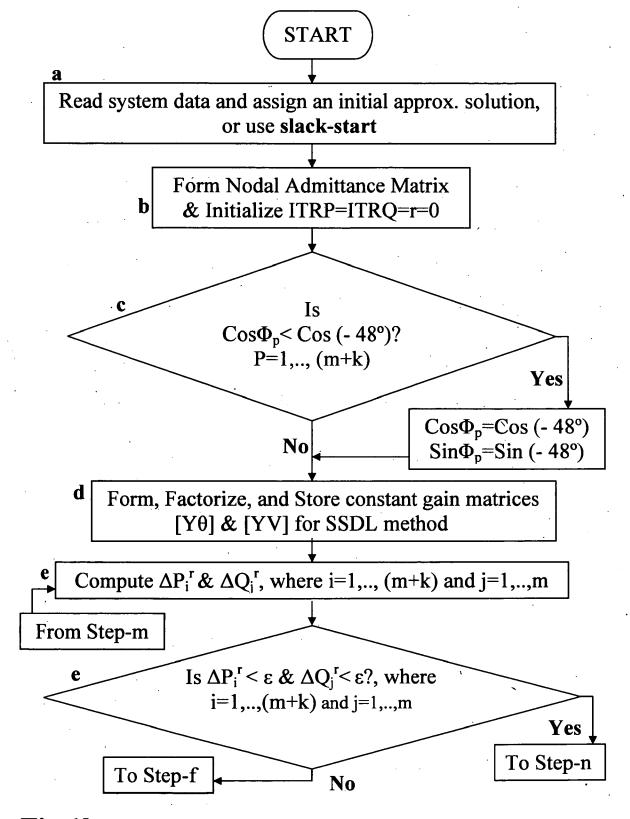


Fig.1b: Prior Art: Flow-chart of Super Super Decoupled Loadflow (SSDL) method

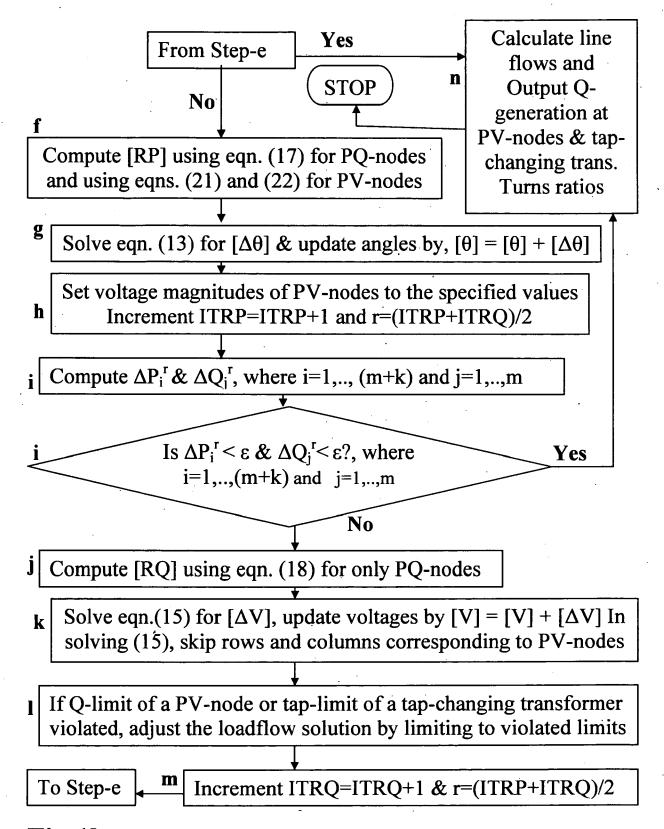


Fig.1b: Prior Art: Flow-chart of Super Super Decoupled Loadflow (SSDL) method

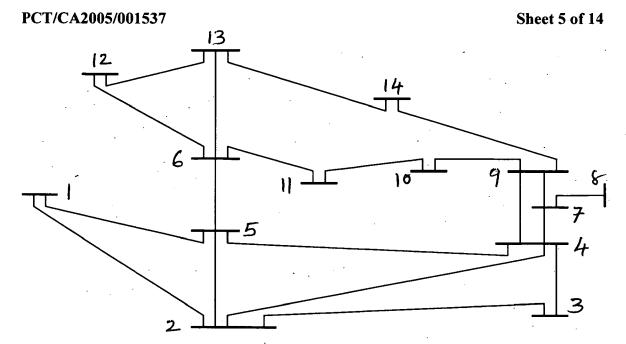


Fig. 2a: One-line diagram of IEEE 14-node network

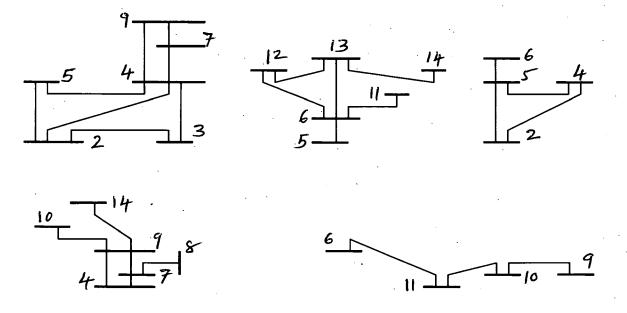


Fig. 2c: Non-redundant Level-1 sub-networks of fig. 2b are regrouped to reduce the number of processors required without increasing the number of nodes in any regrouped sub-network larger than the original largest sub-network of 6-nodes

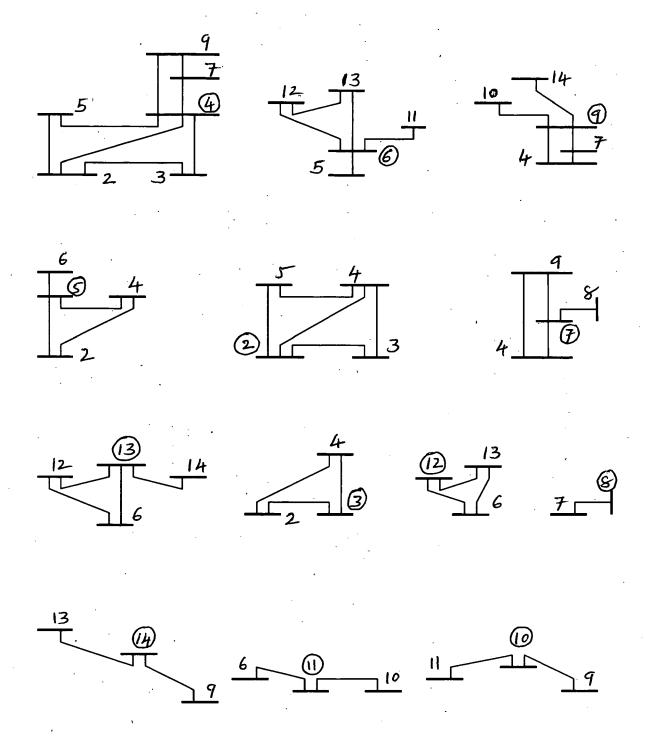


Fig. 2b: Level-1 sub-networks around circled nodes for the network of fig. 2a

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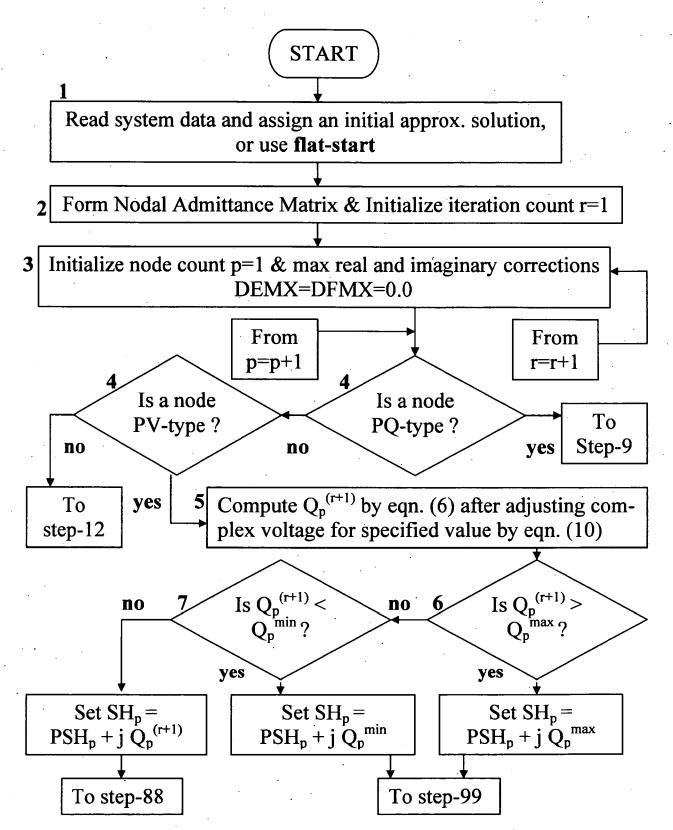


Fig.3a: Invention: Flow-chart of Gauss-Seidel-patel Loadflow (GSPL) Method

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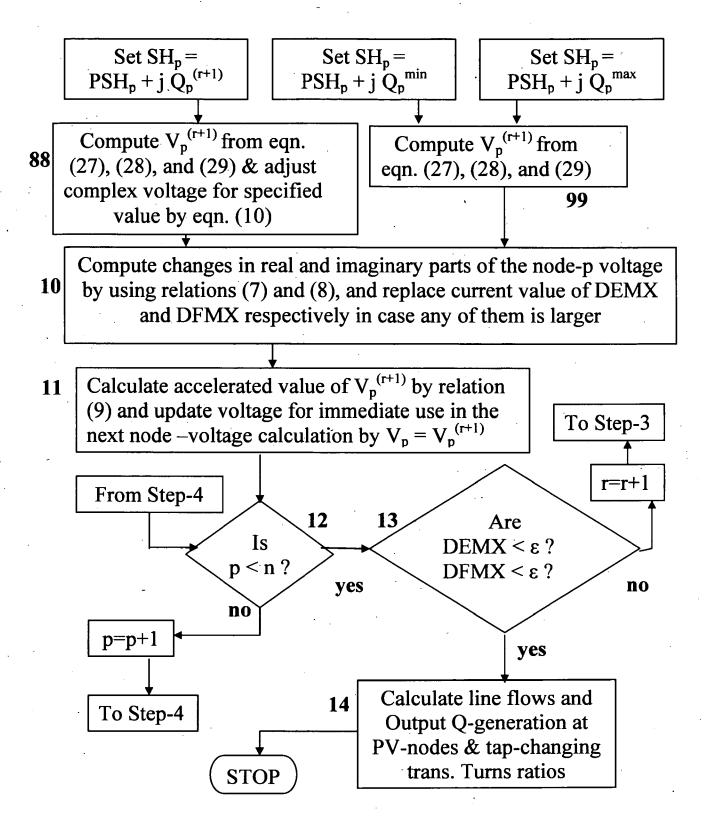


Fig.3a: Invention: Flow-chart of Gauss-Seidel-patel (Cont.) Loadflow (GSPL) Method

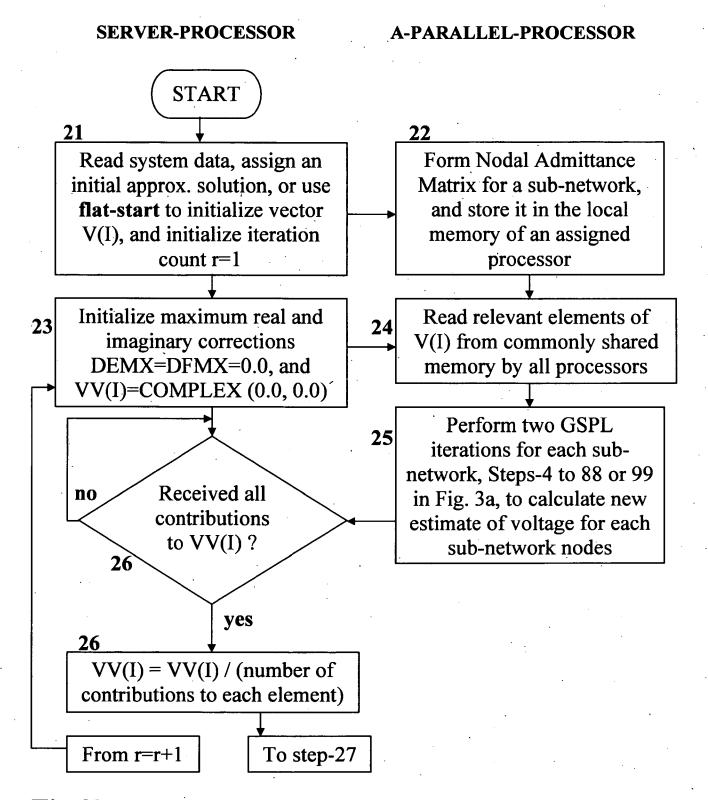


Fig.3b: Invention: Flow-chart of Parallel-Gauss-Seidel-Patel Loadflow (PGSPL) Method

SERVER-PROCESSOR

A-PARALLEL-PROCESSOR

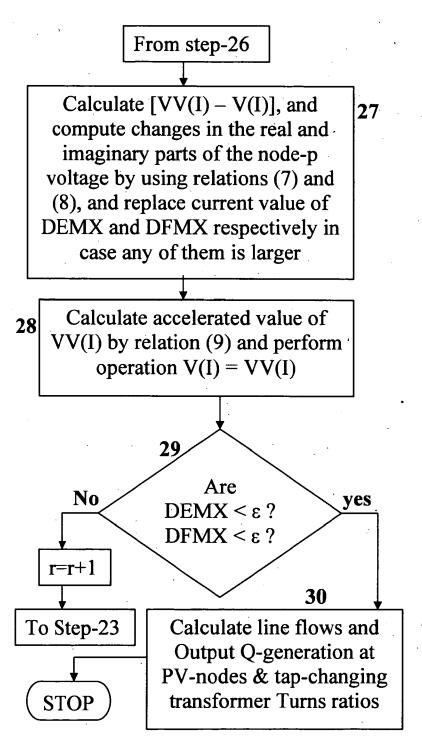


Fig.3b: Invention: Flow-chart of Parallel-Gauss-Seidel-(Cont.) Patel Loadflow (PGSPL) Method

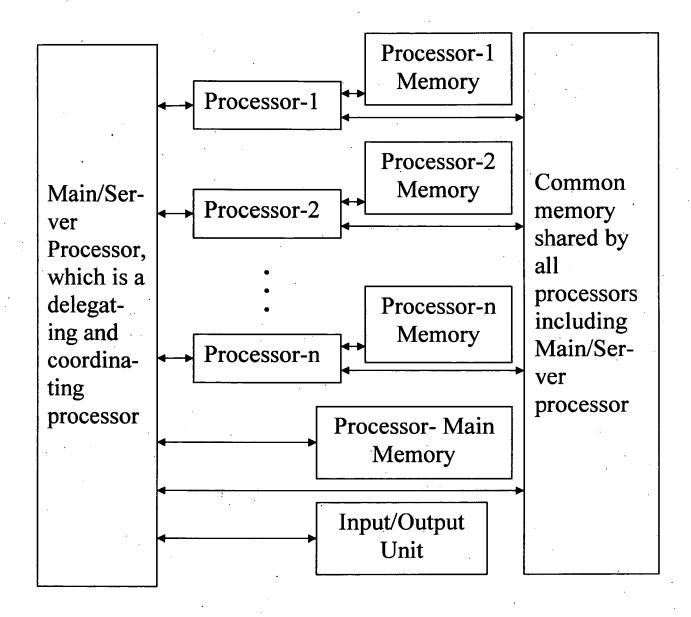
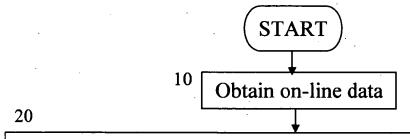


Fig. 4: Invented Parallel computer Architecture /organization



Initial Given/Established Specification of Controlled Parameters i.e. Real & Reactive Power at PQ-nodes, Real Power & Voltage Magnitudes at PV-nodes, and Transformer turns ratio etc.

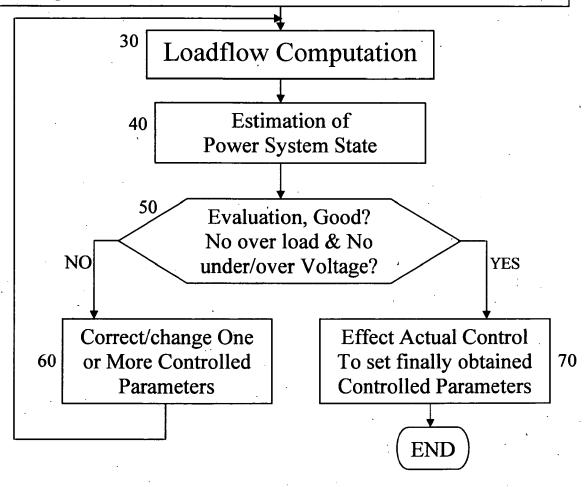


Fig.5: Loadflow Computation in Power Flow Control
Prior Art and/or Voltage Control in Electrical Power
System

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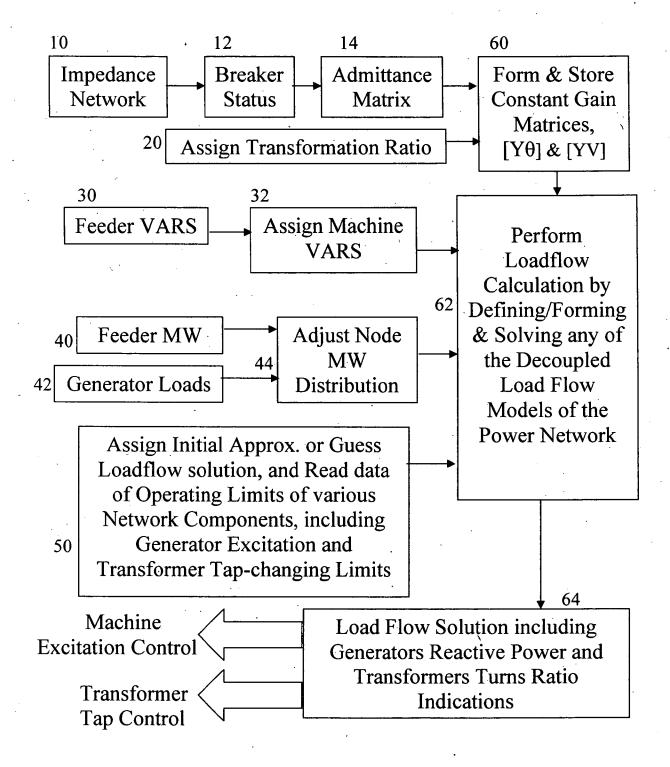


Fig. 6: Load-Flow Computation for Voltage Control in Prior Art Electrical Power System

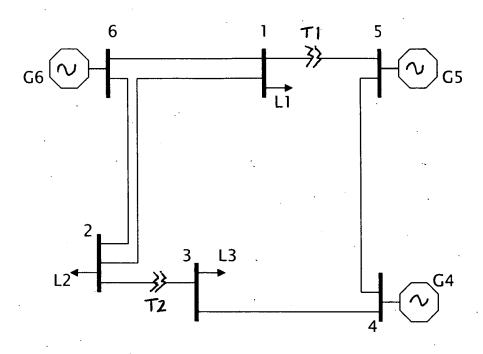


Fig. 7: An Exemplary 6-node Power System

Prior Art

Nodes: 1, 2, 3 are PQ-nodes; arrows extending outwards L1, L2, L3 are connected loads including Electrical Motor loads

Nodes: 4 and 5 are PV-nodes, where equivalent plant generators G4 and G5 are connected

Nodes: 6 is the reference/slack/swing node, where equivalent biggest plant generator G6 is connected

T1 and T2 are tap-changing Transformers controlling voltages of noses 1 and 2 respectively